

WATER CONSERVATION NEWS

Department of Water Resources Division of Planning and Local Assistance Water Conservation Office

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Conserv'99: Making Cents in the Next Century

The challenge of meeting tomorrow's water needs is one the State and the Department of Water Resources tackle by diverse water management approaches—among them, water conservation, water recycling, water transfers and additional water storage and conveyance facilities.

According to DWR's recently released **California Water Plan Update** (Bulletin 160-98), by 2020 California's population will swell to nearly 50 million people. California's water resources are reaching their limits with increasing demands by urban users and the environment.

Conserv'99, aptly titled "Making Cents in the Next Century," will tap into such issues as water demand management and share information about successful water demand management programs. DWR staff will share some of California's experiences in water conservation programs through the following presentations.

DWR's sessions will include software demonstrations. One software demonstration, "**Net Benefit Analysis of Efficient Water Management Practices**," is based on the California Agricultural Water Suppliers Efficient Water Management Act (AB 3616), which became law in

1990. As a result of then Governor Pete Wilson's Water Policy developed in 1992, a Memorandum of Understanding was developed to encourage implementation of agricultural EWMPs. Signatories of the MOU are charged with preparing Water Management Plans every five years, which focus on the agricultural EWMPs to be implemented by each water supplier.

A key part of the MOU was an innovative Net Benefit Analysis which determines if the EWMPs are appropriate to implement by the computation of benefit/cost ratios from the water supplier's perspective. However, in an improvement to traditional benefit/cost analysis, the Net Benefit Analysis also qualitatively evaluates the environmental and third party effects of the EWMPs, as well as the financial implications to the water supplier. The final decision for the

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CIMIS

The CIMIS water index can be used to assist in adjusting lawn or turf watering. Refer to "CIMIS Network News" on page 20 for more information.

Water Conservation News provides information on agricultural and urban water conservation developments. This free newsletter is published quarterly by the California Department of Water Resources, Division of Planning and Local Assistance, Water Conservation Office.

Subscriptions: If you want to receive this newsletter, send your name and address to:

Department of Water Resources
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P. O. Box 942836
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(916) 653-1097

Water Conservation News is also available on the Internet at:

<http://www.dpla.water.ca.gov/cgi-bin/publications/pub/main.pl>

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DWR does not endorse any of the businesses or consulting firms mentioned in this newsletter, since there may be others that offer the same or similar services.

The Big Chill: La Niña Comes Calling

This winter's weather prediction: Colder and drier than last, thanks to the weather pattern called La Niña, the sister of El Niño, say forecasters from the National Weather Service. But experts still say be prepared for the worst because La Niña weather patterns are also unpredictable. Typically La Niña, known as "The Little Girl," means lower than average rainfall. But the storms may be more intense, with an increased risk of flooding.

La Niña was seen during an October 25 storm when 3 inches of rain fell in 30 minutes, flooding 50 homes in the San Bernardino area of Southern California, said Tom Mullins, spokesman for the Governor's Office of Emergency Services.

La Niña is a mirror image of El Niño, whose winds pushed warm ocean water and moist, tropical air north from the west coast of South America. In a La Niña cycle west winds push warm water away from North America toward the coast of southern Asia.

Although it is too early to predict the wrath of La Niña, there have already been more and bigger hurricanes in the Caribbean and along the Atlantic Coast. And, according to State Climatologist Bill Mork, a La Niña phenomenon seems to be forming in the western Pacific Ocean—a cooling of surface temperatures that has been linked to some of Northern California's worst droughts, as well as some of its biggest floods.

Most experts agree that La Niña years are drier. Backing this up are totals from seven out of eight La Niña rainfall seasons since 1949 which show subaverage precipitation, according to data from the National Oceanic and Atmospheric Administration. But even if there is less rainfall, there is little threat of a California drought. Subterranean water tables are high and reservoirs are still overflowing with runoff from last year's precipitation.

EDITOR'S NOTE: Changes in water use because of unusual weather, such as discussed in this article, may be misconstrued as changes in water conservation practices. For example, reduced water use in wet years is often confused with conservation reductions. Conversely, increased water use in dry years is frequently perceived as a lack of conservation. However, regardless of weather conditions, water conservation remains an integral part of efficient water management in California.



Mission Statement of the Water Conservation Office

"To advance the efficient management and use of California's water resources in cooperation with other government agencies and the private sector through technical and financial assistance."

Editorial

by Ed Craddock

Welcome to Conserv' 99!

As a cosponsor of Conserv'99, we want to welcome all of you attending the Monterey conference on January 31 through February 3 entitled *Water Efficiency: Making Cents in the Next Century*. We're excited that this worldwide conference has come to California, "The Golden State."

The American Water Works Association has organized a strong program of workshops and technical sessions. We hope you participate in tours highlighting Monterey County and the agricultural produce of the Salinas Valley. DWR is also moderating a panel on the conflicts of urban growth on the prime agricultural land of Monterey County. The panel is described in the sidebar on page 4.



Be sure to stop by our display at the conference and talk with our Water Conservation Office staff. The staff can give you publications and details about our conservation programs. We have many water conservation specialists working in California (see pages 15, 16 and 17 for the programs and contacts of the Water Conservation Office) and a number of specialists in the Department that manage related programs of information dissemination, data gathering, economic analysis and loan and grant programs.

We look forward to meeting with you to share success stories, pitfalls, and new ideas on water use efficiency and conservation. Efficient water use will play an increasingly important role in water management in the 21st century.

If you are not already signed up, but would like to attend the conference, call Susan Miller at AWWA at (303) 347-6181.

Conserv'99: Making Cents in the Next Century

(continued from page 1)

implementation of the EWMPs is left to the elected boards of the water supplier signatories, subject to the endorsement of the Agricultural Water Management Council established by the MOU.

The second software demonstration at Conserv'99 is "The California Irrigation Management Information System (CIMIS)." CIMIS is the largest standardized automated weather station network in the nation. DWR, with other agencies, shares the responsibility of providing information for efficient water use through CIMIS.

"Effective Information Dissemination for Water Conservation: The CIMIS Experience" discusses the success of CIMIS as a tool in irrigation water management and conservation. The increase in the number of users, information retrieval, indirect data acquisition and effective methods of data dissemination are discussed. The expanding involvement of local agencies in the program is covered. In addition, the motivation to adopt CIMIS by irrigators, water savings achieved and the benefit

to the State are discussed.

"Linear Irrigation System in California on the Move" explains a survey of the mechanized Linear Move Irrigation System. The survey was funded by DWR and conducted by the Center for Irrigation Technology in Fresno, California. The results show that the machines have demonstrated the ability to apply water in a uniform and controlled manner. Most growers in the study perceive some economic benefit to using linear move systems. Economic benefits include increased germination, higher yield, reduced cultural costs and water savings. Initial cost is reported as the biggest disadvantage, followed by maintenance, operational cost and the inability to "catchup" on irrigation once behind schedule.

In the presentation "Which Commercial Customers Use the Most Water?" DWR and the U.S. Environmental Protection Agency survey

results of commercial water use are examined. Thirteen metropolitan water utilities provided water use records. The results of 744 on-site water audits were analyzed and applied to

different customer classes. Using Standard Industrial Classification codes, the results of the water audits were matched with the utility water use records to estimate potential water efficiency savings at the

DWR PANEL AT CONSERV'99

"When Urban Meets Agriculture" will discuss this important issue facing California and Monterey County. This panel will be moderated by Ed Craddock, Chief of DWR's Water Conservation Office. It will include these participants:

- Eric Vink, California Policy Director of the American Farmland Trust
- Mark Del Piero, member of California's State Water Resources Control Board and founder of the Monterey County Agricultural Land Conservancy
- Keith Israel, Manager of the Monterey Regional Water Pollution Control Agency
- Dave Scruggs, DWR Senior Land and Water Use Analyst responsible for Land and Water Use Surveys for the North Central Coast

utility level. The results helped quantify the water consumption of commercial water users in 13 metropolitan areas in the United States; quantify the potential cost-effective water savings achievable by categories of commercial water users; and estimate the volume of water saved for each of the commercial categories for each of the selected metropolitan areas.

Water Management 2000

—Interviews with Kirk Brewer, Convener, California Urban Water Conservation Council in 1998 and Roger L. Reynolds, Co-Chair, Agricultural Water Management Council

As we enter 2000, urban, agricultural and environmental interests are working through a number of organizations to address water conservation and water use efficiency. The following interviews with two unique California organizations express their opinions about the future.

Kirk Brewer Interview

Conserv'99 comes just two years before the tenth anniversary of the California Urban Water Conservation Council. The Council, comprised of signatories to a Memorandum of Understanding Regarding Urban Water Conservation in California, looks forward to the next century. These questions were posed to CUWCC Convener Kirk Brewer.

Q: Where do you see your organization's role in California's overall water management?

A: On September 30, 1997, the California Urban Water Conservation Council approved the revised list of Best Management Practices regarding urban water conservation in California. The list of BMPs is one of the common elements in each CALFED alternative. The CUWCC has conditionally agreed to be CALFED's certifying entity for BMP implementation.

CALFED's approach is designed to provide assurances that are necessary to verify that urban water users are consistently complying with urban water conservation objectives throughout the state. However, the approach proposed by CALFED will not be finalized until late in 1999.

Q: What do you see as the most immediate challenge(s) facing your

Council as you head into 2000? Please speak to short-and long-term. (For this forum, short-term means within 10 years.)

A: Short-term—The ability for the CUWCC to establish its identity as a conservation resource, attract new signatories and be recognized for the value it offers by:

- developing training modules to assist conservation coordinators in developing, costing, marketing and implementing cost-effective programs
- establishing a dues structure that is considered fair and equitable to a majority of the signatories
- finalizing the measurement and evaluation process
- finalizing the on-line reporting module to ease signatory reporting of BMP implementation
- agreeing among the signatories about certification

(continued on next page)

Water Management 2000 *(continued from previous page)*

language and process
•reevaluating CUWCC's
Strategic Plan

Long-term—
•successfully certifying
BMP implementation
•training signatories and
others in developing and
implementing programs

*Q: What do you think
could be improved as your
Council plans to interact
with the U.S. Bureau of
Reclamation and the
Department of Water
Resources? Please specify
how this could be
improved and how you
will do so.*

A: By developing uniform
reporting formats for all
entities. By continuing
current dialog and

enhancing the
understanding of each
agency's goals and its
relationship to others.
Finally, by coordinating
action plans to minimize
duplication of effort.

*Q: What role do you see
your Council playing in
endorsing and certifying
BMPs/EWMPs with or
without CALFED?*

A: The certification role
will be inherent in any
solution, regardless if the
ultimate entity is CALFED,
EPA or another agency.

*Q: What final thoughts
would you like to make?*

A: It is difficult to think of
water conservation
without considering water

reuse. The need to
maximize reclaimed water
use is essential to the
supply mix. It is also
necessary to conserve this
valuable water source in
the same manner as
potable water.

Roger L. Reynolds Interview

To date, 33 water suppliers
and over 30 other entities
have signed the
Memorandum of
Understanding for Efficient
Water Management
Practices for agricultural
water use. The MOU
established the Agricultural
Water Management
Council to oversee EWMP
implementation. Formed
1-1/2 years ago, the AWMC
has over 60 members.
Most of the members are

agricultural water
suppliers; the rest are
environmental groups,
water wholesalers,
consultants and others.
These questions were
posed to AWMC Co-Chair
Roger L. Reynolds.

*Q: Where do you see your
organization's role in
California's overall water
management?*

A: Although the AWMC has
been in existence for 1-1/2
years, the MOU and the
formation of the Council
were the result of more
than 6 years of meetings
and negotiations with
various agricultural,
environmental, State and
federal representatives.
The Council's membership
now represents

CALFED is a consortium of five State agencies and five federal agencies with management and regulatory responsibilities in the San Francisco Bay/Sacramento-San Joaquin Delta. CALFED was established to develop a long-term solution to resolve problems affecting the Bay-Delta. The agencies comprising CALFED are:

STATE

California Resources Agency
Department of Water Resources
Department of Fish and Game
California Environmental Protection Agency
State Water Resources Control Board

FEDERAL

U.S. Department of Interior
Bureau of Reclamation
Fish and Wildlife Service
Environmental Protection Agency
National Marine Fisheries Service

approximately 3 million acres of irrigated agriculture in California from the Sacramento Valley to the Imperial Valley.

Recent workshops to explain and describe the benefits of the AWMC have indicated several additional water suppliers will become signatories in the near future.

As a voluntary, statewide organization, I believe the Council will play a major role in future establishing, overseeing and improving opportunities for the development and implementation of responsible efficient water management. It is the only statewide organization having as its primary purpose efficient agricultural water management.

The Council will require signatory water suppliers to prepare a water management plan and to peer review the water management plans of other water suppliers. To receive the endorsement of a water management plan, the Council's environmental and water supplier representatives will have to

work together in a responsible way to meet the requirements of the MOU following endorsement of a water management plan.

The water suppliers will implement EWMPs identified in the plan over a reasonable time line.

Q: What do you see as the most immediate challenge(s) facing your Council as you head into 2000?

A: Funding to help the Council operate as envisioned. There are now 33 signatories (agricultural water suppliers known as Group 1) to the MOU. This will continue to increase in the future.

The short-term administration and operational costs of the Council, including the initial review of water supplier water management plans, will require funding for the Council to effectively operate.

Long-term challenges are to find funding sources to help water supplier agencies finance or fund

the implementation of appropriate efficient water management practices.

Q: What do you think could be improved as your Council plans to interact with USBR and DWR?

A: The Council is actively interacting with DWR and USBR. DWR representatives attend the Council meetings and DWR presently provides the Council's administrative and general office needs. The USBR staff have also attended the meetings and have funded activities supported by the Council (The Net Benefit Analysis review and software development, and the Water Conservation Coordinator Workshops).

Lines of communication have been maintained with both agencies during the past 1-1/2 years and it is anticipated this will continue in the future.

Q: What role do you see your Council playing in endorsing Water Management Plans with or without CALFED?

A: I believe the Council will work with CALFED in

developing an appropriate Water Use Efficiency Program for the CALFED solution area. The MOU and the Council, however, were not established to meet CALFED's goals.

The purposes of the MOU are to "...1) create a constructive working relationship between agricultural water suppliers, environmental interest groups and other interested parties; 2) establish a dynamic list of EWMPs; 3) establish criteria to evaluate the appropriateness of EWMPs; and 4) implement appropriate EWMPs while avoiding unnecessary planning, paperwork or expense for water suppliers.

The process should voluntarily achieve more efficient water management than currently exists or may be required by existing law (November 13, 1996 MOU). The Council will review and endorse water management plans in accordance with the MOU and it is hoped that this will significantly benefit CALFED's Water Efficiency Program.



NEW PUBLICATIONS

California Water Plan Update Outlines Relief Options

DWR has compiled the 1998 **California Water Plan Update**—a blueprint illustrating how water purveyors statewide plan to deal with the increased demands being placed on the State's water supplies. Released as Bulletin 160-98, the updated water plan foresees a water shortfall by the year 2020 of 2.4 million acre-feet in average precipitation years and 6.2 million acre-feet in drought years if no actions are taken to improve existing supplies. Updated every five years, the Bulletin 160-series assesses agricultural, environmental and urban water needs and evaluates water supplies. The report discusses in detail each of California's 10 major hydrologic regions and a variety of efforts to reduce forecasted shortages.

California Water Plan Update is available online at <http://www.dwr.water.ca.gov>. To request a printed copy of the bulletin contact Department of Water Resources, Bulletins and Reports, P.O. Box 942836, Sacramento, CA 94236-0001; (916) 653-1097.

River Report—New Water Education Foundation Newsletter

To promote a broader understanding of the current issues involving the Colorado River, the Water Education Foundation, with assistance from the U.S. Bureau of Reclamation, has developed **River Report**, a 12-page newsletter devoted to topics surrounding this vital waterway. The newsletter includes in-depth news stories essential to the Colorado River. The newsletter also includes shorter news stories, briefs for Upper and Lower basins and a calendar of events. If you wish to subscribe to the newsletter, contact WEF at (916) 444-6240; FAX

(916) 448-7699; or order your subscription online at WEF's products page at <http://www.water-ed.org/cgi-bin/water-ed/gocart/enter.asp>. The subscription cost is \$15 a year.

Estimated Use of Water in the United States in 1995 (USGS Circular 1200)

This newly released U.S. Geological Survey report says the nation is using less water—402 billion gallon per day (about 450 million acre-feet per year) for all uses, despite the continuous population increase. This is 2 percent less than in 1990 and almost 10 percent less than in 1980. The reduced water use is attributed to increased awareness of the value of water conservation, urban conservation measures, improved irrigation techniques and efficient water use by industry. The USGS water-use report is searchable by county and watershed and has an expanded section on trends. Single copies of the 71-page report are available free upon request to USGS Information Services, P.O. Box 25286, Denver Federal Center, Denver, Colorado, 80225; FAX (303) 202-4693. The report is also available online at <http://water.usgs.gov/public/watuse/>.

Water Conservation Plan Guidelines, August 6, 1998

The U.S. Environmental Protection Agency's newly released guidelines for water conservation plans for public water systems contain step-by-step approaches and conservation measures that can be used by water system planners to develop and implement water conservation plans. The guidelines are divided into three categories: basic (geared to water systems serving 10,000 or less people), intermediate (for water systems serving between

10,000 and 100,000 people) and advanced (for water systems serving more than 100,000 people). A copy of the guidelines is available online at <http://www.epa.gov/owm/genwave.htm#guideline>. For a printed copy (document number EPA-832-D-98-001) contact the Office of Water Resources Center's 24-hour voice mail at (202) 260-7786; FAX (202) 260-0386; or e-mail: waterpubs@epamail.epa.gov. For more information contact John E. Flowers at (202) 260-7288 or Valerie Martin at (202) 260-7259; FAX (202) 260-1827. E-mail requests for more information may also be sent to flowers.john@epamail.epa.gov.

Water in the West: The Challenge for the Next Century, June 1998

This Presidential advisory commission final report describes how population growth, declining groundwater levels, damaged river ecosystems and numerous social conflicts have affected water management. Under the Western Water Policy Review Act of 1992 (Public Law 102-575, Title XXX), the Western Water Policy Review Advisory Commission was assigned the task of reviewing federal activities in nineteen western states which directly or indirectly affect allocation and use of water resources (surface or subsurface) and submitting a report of findings to the congressional committees having jurisdiction over federal water programs. The report contains recommendations about the proper role of the federal government in western water management for the next 20 years, as well as the Commission's recommendations for sustainable water management, new approaches to river basins and watershed governance and other changes in federal water resources policy. The report is available online at <http://www.den.doi.gov/wwprac/reports/final.htm>. To request a printed copy call (303) 445-2100.

Using Reclaimed Water to Augment Potable Water Resources

This new book provides the latest information on the benefits and risks of indirect potable water reuse. To order a copy call the American Water Works Association at (800) 926-7337. The price of the book is \$92 (\$69 for AWWA members).

Standard Methods for the Examination of Water and Wastewater, 20th Edition

This new edition has been expanded to incorporate new material and figures, as well as significant revisions and updates of existing material. With step-by-step procedures for over 350 separate measurements, this 20th edition sets a new benchmark for completeness and precision. These methods offer scientists, analysts and engineers a valid and recognized basis for control and evaluation—and can assist with regulatory compliance. Call the American Water Works Association at (800) 926-7337 to order a copy. This publication is also available on CD-ROM.

1998 Residential Water Use Summary

This report summarizes various research studies conducted on typical single-family water use—inside and outside the home. Data collection was completed for 12 sites registering approximately 800,000 water use events from 1,188 homes. To order this report call the American Water Works Association at (800) 926-7337.

Customer Satisfaction Survey of City of Petaluma and Robnert Park ULFT Replacement Programs

This report presents the results of satisfaction surveys conducted among residential and commercial, institutional and industrial water and sewer customers who participated in the first year of Direct-Installment Programs to replace old toilets with new ultra low-flow (1.6 gallons per flush) toilets. To order a copy of the report call the American Water Works Association at (800) 926-7337.

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Help for Preparing Year 2000 Urban Water Management Plans

The California Urban Water Management Planning Act requires that any urban water supplier providing water for municipal purposes either directly or indirectly to more than 3,000 customers, or supplying more than 3,000 acre-feet of water annually, prepare, update and adopt its urban water management plan at least once every five years on or before December 31, in years ending in five and zero. To provide technical assistance to water suppliers and other public agencies, DWR staff is creating a checklist and worksheets that may be used to prepare urban water management plans submitted to DWR in 2000. The checklists and worksheets will be useful tools for agencies developing water management plans; they are available on the Internet at <http://www.dpla.water.ca.gov/urban/management/plans/hq/2000/yr2000.html>. For more information, contact Greg Smith at (916) 327-1619; e-mail gregs@water.ca.gov.

Water District Gives Out Low-Flush Toilets

Mesa Consolidated Water District helped customers cut their water use by giving away 1,000 low-flush toilets in November. The new toilets are expected to save an average family 22,000 gallons of water a year by using fewer gallons per flush than older toilets. The white Briggs model toilets were provided to customers after they provided their account numbers or copies of their water bill, identification and measurements from the wall to the bolts on the floor. Customers returned their old toilets to avoid paying \$100. MCWD provided the toilets through a partnership with the Orange County Sanitation District, the Metropolitan Water District of Southern California and the Municipal Water District of Orange

County. For more information, call MCWD's Public Information Office at (949) 574-1020.

Automatic Rain Company Launches University

Automatic Rain Company announced a new educational tool for improving job performance in the irrigation and landscaping industry: Automatic Rain University. The classes will be taught in an interactive environment by experts in the field. Classes include Respirator Safety Training for Pesticide Exposure, Low-Voltage Landscape Lighting, Pesticide Safety Training and Safety Training for Specific Pesticides. A class catalog may be obtained at any Automatic Rain Company Store or by calling Gloria Chillon, Director of Sales and Marketing, at (650) 329-8344 or Bob Bain, Education Services Manager, at (707) 584-5116. Information is also available by e-mail at fsmd@autorain.com. Registration can be done by FAX at (650) 323-4078 or by visiting any store. Automatic Rain is a supplier of irrigation and landscape supplies for landscape professionals.

Water Education Foundation Receives National Chevron Conservation Award

For promoting awareness, understanding and resolving important water issues, the Water Education Foundation was awarded the national Chevron Conservation Award. The award, described as one of the country's oldest and most prestigious conservation awards, is given to organizations that exemplify dedication to enhancing and protecting renewable resources. "No other agency offers lay persons, water professionals, decision makers and policy setters the opportunity to learn about the importance of water and conservation from an unbiased viewpoint," said Phil Hall, Chairman of the Board for

BRIEFS

CH2M Hill and a member of the Foundation's Board of Directors. "The Water Education Foundation stands out as a longtime leader in water education in the West."

Winners were selected by an independent panel of seven distinguished conservationists representing a variety of environmental fields. For more information contact the Water Education Foundation at (916) 444-6240.

Water Districts Encourage Customers to Conserve

Now that the days are shorter, water districts urge water customers to save water by easing back on landscape watering. Studies have shown that more than 25 percent of the water used in urban Southern California goes to watering lawns and other landscaping around single-family homes—and some homeowners "over" water by as much as 30 percent. Beginning in September, homeowners should progressively cut back on their watering time by 10 percent, watching their plants and lawns for signs of stress or wilting. If no stress appears, cut back another 10 percent. Lawns show stress when grass blades turn wiry and don't pop back up when stepped on. Last year, Southern California received nearly twice its average annual rainfall because of El Niño. Some weather experts expect this winter to be a cold, dry spell called La Niña. If these predictions are correct, water we save this winter will help us when we need it. For more information contact Darlene Battle of the Los Angeles Department of Water and Power at (213) 367-1368.

Survey Uncovers Farmers' Perceptions on Drip/Micro Irrigation

Fifty-seven percent of the farmers using drip/micro irrigation systems believe that crop quality increases under these systems, 76 percent with drip/micro think

farming is easier and two-thirds believe that there are fewer weeds. This is according to a survey of 45 farmers with more than 50,000 acres in the Delano-Earlimart Irrigation District. Nearly all the farmers surveyed believe that the dollar payback justifies the investment in drip/micro irrigation systems. The survey, conducted by the Irrigation Training and Research Center at the California Polytechnic State University in San Luis Obispo, was funded by the United States Bureau of Reclamation Mid-Pacific Region's Fresno Water Conservation Office. For more information call (805) 756-2434, or visit ITRC's web site at www.itrc.org.

Bridging The Headgate

Efforts to forge stronger working relationships between the U.S. Bureau of Reclamation, the Natural Resources Conservation Service, local conservation districts and state water conservation programs were the focus of the on-farm water management workshop "Bridging the Headgate." The workshop was held in Albuquerque, New Mexico from October 28-30. Examples of successful programs were presented including USBR's Challenge Grants in California and the Coachella Valley Resources Conservation District Mobile laboratory, including the California Irrigation Management Information System. For more information contact Julie Spezia, USBR Mid-Pacific Region, at (916) 978-5212.

IID SWRCB Petition Available on the Web

The petition to the State Water Resources Control Board for approval of the long-term conservation and water transfer agreement between Imperial Irrigation District and San Diego Water Authority is available on IID's web

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Water Conservation

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site. To access this information, go to <http://www.iid.com/water/petition/>. The site contains approximately 350 pages of the over 800-page petition. For more information or to request a copy of the remaining pages, contact IID's External Affairs Department at (760) 339-7426. To comment on the petition, contact the SWRCB at (916) 657-2170. The conservation and water transfer agreement is also available at this IID web site: <http://www.iid.com/water/transfer.html>.

New Water Education Foundation Video-Setting a Course: The California Bay-Delta

The importance of the San Francisco Bay/Sacramento-San Joaquin Delta to Californians from Redding to San Diego is the theme of a new documentary produced by the Water Education Foundation. The 60-minute program, hosted by actor Timothy Busfield, is designed to teach the public where and what the Delta is, its importance to farms, cities and the environment, the history of its development and the options being discussed by CALFED. The program was distributed to the public television satellite network in June. Video cassette copies can be purchased for \$25 from WEF's products page at <http://www.water-ed.org/cgi-bin/water-ed/gocart/enter.asp>. A 15-minute version for community forums and speaking engagements is also available for \$20. A free viewers guide may be obtained by writing to WEF at 717 K Street, Suite 517, Sacramento California 95814. For more information call (916) 444-6240; FAX (916) 448-7699.

San Franciscans Get a Low-Flow Price Break

San Franciscans have been lining up for toilets—inexpensive ones. For more than a year, the City Water Department has offered ultra low-flow toilet (with 1.6 gallon tanks) for just \$10. The toilets usually sell for \$60 to \$70. (The low-flow toilets are required in all newly constructed homes in California.) The program is designed to reduce water use and sewage treatment needs. Water conservation administrator Kim Knox says the City has sold nearly 15,000 toilets since the program started in the spring of 1997. James Fryer, Marin Municipal Water District water conservation coordinator and member of the California Urban Water Council, says San Francisco's program is one of many low-flow incentive programs around the State. From 1995-1997, Fryer says, more than 400,000 water-guzzling toilets have been replaced statewide. For more information, contact the San Francisco Water Department at (415) 923-2420.

New CIMIS Weather Station

California Irrigation Management Information System staff met with representatives of the East Bay Municipal Utility District and Mills College to discuss the final preparations for installing the Oakland Foothills CIMIS weather station. The new weather station will be located on the Mills College campus. It will be the 27th active CIMIS weather station within DWR Central District area. CIMIS staff will install the station in February, weather permitting. For more information contact Mark Rivera of DWR's Central District at (916) 227-7603; e-mail mrivera@water.ca.gov.

Water Conservation News

SURVEY

Please complete this survey and let us know what you think about our newsletter and whether we are providing you with information you want. Check the appropriate boxes and return the survey to us by **February 15, 1999**. The survey is self addressed. When you have completed the survey, simply tear it out at the perforation, fold and tape it together where indicated and mail it. (Please DO NOT staple the survey together.) We will publish the survey results in the April 1999 issue of **Water Conservation News**. Thank you!

1. Which of the following best represents your reason(s) for reading **Water Conservation News**?
 - ☐ information on research
 - ☐ local water management issues
 - ☐ legislative updates
 - ☐ workshop/seminar announcements
 - ☐ ongoing programs and activities
 - ☐ available grants and loans
 - ☐ new, improved ways to conserve water
 - ☐ help to improve business
 - ☐ other
2. Do you feel **Water Conservation News** contributes to the prosperity of water conservation in California?
 - ☐ yes
 - ☐ no
 - ☐ not much
3. Are the articles informative and up to date?
 - ☐ yes
 - ☐ no
 - ☐ other
4. How would you rate the quality of information (one is the lowest rating and five is the highest rating)?
 - ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
5. What other information would you like published in **Water Conservation News**? (Please explain)

6. How many other people share your copy of **Water Conservation News**?
 - ☐ 3 or more ☐ 2 ☐ 1 ☐ none
7. Which of these water conservation programs interest you most?
 - ☐ agricultural water management plans
 - ☐ California Irrigation Management Information System (CIMIS)
 - ☐ commercial/industrial
 - ☐ efficient irrigation and drainage reduction
 - ☐ gray water use
 - ☐ in-school education
 - ☐ landscape irrigation auditor training
 - ☐ low-interest loans and grants
 - ☐ low-water-using landscapes
 - ☐ Mobile Irrigation Laboratories
 - ☐ public information
 - ☐ public/private partnerships
 - ☐ urban water management plans
 - ☐ water audits/leak detection
 - ☐ water management computer software
 - ☐ water recycling/reclamation
8. How long have you received **Water Conservation News**?

<input type="checkbox"/> less than one year	<input type="checkbox"/> 3 years
<input type="checkbox"/> 1 year	<input type="checkbox"/> 4 years
<input type="checkbox"/> 2 years	<input type="checkbox"/> 5 years or longer
9. How did you find out about **Water Conservation News**?
 - ☐ newspaper advertisement
 - ☐ newspaper or magazine article
 - ☐ television
 - ☐ poster
 - ☐ direct mail
 - ☐ radio
 - ☐ word of mouth
 - ☐ catalog
 - ☐ workshop/conference/meeting
 - ☐ school/training course
 - ☐ co-worker
 - ☐ other

Water Conservation News

SURVEY

10. *If you want to discontinue receiving this newsletter, please check here and include your ID number below.*
- ☐ Please cancel my subscription.
- ☐ My ID number is _____
11. *How long have you been involved in water conservation?*
- ☐ less than one year
- ☐ 1-3 years
- ☐ 4-7 years
- ☐ 8-10 years
- ☐ more than 10 years
12. *Which of the following best describes your involvement in water conservation?*
- ☐ community service
- ☐ local water district/agency
- ☐ government (federal, state, local, county)
- ☐ private industry
- ☐ technical consultant
- ☐ college/university
- ☐ other

Please mail this survey by
February 15, 1999.

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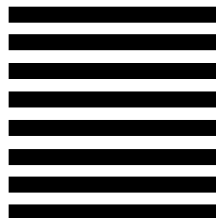
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CALIFORNIA DEPARTMENT OF WATER RESOURCES

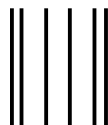
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WCO Contacts

The Department of Water Resources has many staff working on California's water conservation programs. For your reference, we have listed the descriptions of the programs along with the phone numbers and e-mail addresses of staff to contact for assistance. The staff from DWR's District Offices working on water conservation programs are also listed.

Headquarters

Conservation Programs-General

Manages programs that provide assistance for planning and implementing Urban Best Management Practices and Agricultural Efficient Water Management Practices. Provides management oversight of analyses and information advances in water use efficiency in water management plans and drought contingency plans.

Contact: Ed Craddock
Telephone Number: 916/327-1655
E-mail Address: craddock@water.ca.gov

California Irrigation Management-General

Manages and provides technical assistance for water budget irrigation scheduling, drought monitoring and the source-control and reuse elements of agricultural drainage reduction.

Contact: Baryohay Davidoff
Telephone Number: 916/327-1788
E-mail Address: baryohay@water.ca.gov

California Irrigation Management Information System (CIMIS)

Disseminates evapotranspiration information to agricultural and urban users. Provides technical information on soil/plant/water relationships and assists CIMIS users with accessing the CIMIS database and with computer-telecommunication. Works with DWR Districts and cooperates with local agencies to promote CIMIS, disseminates evapotranspiration and drought monitoring data and develops crop and landscape coefficients.

Contact: Simon Eching
Telephone Number: 916/327-1836
E-mail Address: seching@water.ca.gov

CIMIS Maintenance & Site Criteria

Calibrates and maintains CIMIS weather stations. Assists DWR Districts and cooperates with agricultural and urban agencies in selecting new station sites and establishes site criteria. Provides CIMIS weather data quality control and quality assurance and assists CIMIS users with accessing CIMIS and computer telecommunication.

Contact: David Moellenberndt
 Telephone Number: 916/327-1792
 E-mail Address: davidm@water.ca.gov

Agricultural Drainage Reduction

Assists growers and water agencies in reducing their volume of agricultural drainage water. Helps local agencies improve/develop and adopt on-farm drainage and salinity management, drainage water reuse (agroforestry systems) and shallow groundwater management practices. Conducts on-farm demonstration projects to reduce agricultural drainage.

Contact: Wayne Verrill
 Telephone Number: 916/327-1667
 E-mail Address: wverrill@water.ca.gov

Water Use Efficiency—General

Provides assistance, surveys analysis of short-term and long-term water use efficiency measures and information on their implementation through ***Water Conservation News, Water Conservation in California*** (Bulletin 198), workshops and other public forums.

Contact: Keith Watkins
 Telephone Number: 916/327-1808
 E-mail Address: kwatkins@water.ca.gov

Urban Water Use Efficiency

Provides assistance for analyzing and implementing water use efficiency measures, including BMPs, through the appropriate subcommittees of the California Urban Water Conservation Council. The primary focus is on the BMPs for leak detection and repair, commercial/industrial/institutional and landscape conservation.

Contact: Charles Pike
 Telephone Number: 916/327-1649
 E-mail Address: cpike@water.ca.gov

Agricultural Water Use Efficiency

Coordinates analysis and assistance with the U.S. Bureau of Reclamation, Natural Resource Conservation Service and local Resource Conservation Districts for implementing agricultural water management practices including EWMPs identified in agricultural water management plans endorsed by the Agricultural Water Management Council. Provides administrative support to the AWMC.

Contact: Arturo Carvajal
 Telephone Number: 916/3271622
 E-mail Address: arturoc@water.ca.gov

Local Planning Support—General

Provides assistance to local and agricultural water agencies preparing agricultural and urban water management plans. Develops statewide data bases for urban and agricultural water management plans. Coordinates these activities with USBR, CUWCC and AWMC.

Contact: Greg Smith
Telephone Number: 916/327-1619
E-mail Address: gregs@water.ca.gov

District Offices

Northern District (Red Bluff)

Contact: X. Tito Cervantes
Telephone Number: (530) 529-7389
E-mail Address: cervante@water.ca.gov

Central District (Sacramento)

Contact: Ed Morris
Telephone Number: (916) 227-7578
E-mail Address: emmoris@water.ca.gov

San Joaquin District (Fresno)

Contact: David Scruggs
Telephone Number: (209) 445-5262
E-mail Address: dscruggs@water.ca.gov

Southern District (Glendale)

Contact: David Inouye
Telephone Number: (818) 543-4600
E-mail Address: davidi@water.ca.gov

An Environmental View of California's Water

By Roberta Borgonovo
Water Director for the League of Women Voters of California

The League of Women Voters of California, with other environmental and fishery groups, have endorsed an environmentally oriented water supply reliability option for the CALFED Bay-Delta. The document is titled ***Blueprint for an Environmentally and Economically Sound CALFED Water Supply Reliability Program***.

In the CALFED Bay-Delta process, LWVC has been stressing the need for phased decision making, emphasizing maximizing the common CALFED programs such as ecosystem restoration, water use efficiency and watershed management before decisions are made on the need for additional surface storage and an isolated conveyance facility.

We have been emphasizing the following major points delineated in the ***Blueprint***:

- an affirmative program for improving water supply reliability through a broad range of alternatives to reduce demand for water and increase supply of water
- supply-related strategies including groundwater banking, changing the operation of existing reservoirs, restoration of upper watersheds and changes in Delta operations
- demand reduction strategies including agricultural water conservation, market-based incentives, urban water conservation and wastewater recycling

Much work remains for the CALFED Bay-Delta Program before the Record of Decision is issued in late 1999. We believe the actions outlined in the ***Blueprint for an Environmentally and Economically Sound CALFED Water Supply Reliability Program*** could be the basis for that work.

WATER CONSERVATION

January 27-30

Joint Residuals and Biosolids Management Conference

Sponsored by the American Water Works Association and Water Environment Federation
Charlotte Convention Center
Charlotte, North Carolina

For further information or to register contact the Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314-1994; (800) 666-0206 or (703) 684-2452; FAX (703) 684-2492; e-mail: confinfo@wef.org

—This biannual event is for individuals who are involved with biosolids and water treatment residuals. The conference will focus on strategic networking in the 21st Century to promote the sharing of common technical issues and achievements between the waste water and drinking water industries.

January 31-February 3

Conserv'99 Conference: "Water Efficiency: Making Cents in the Next Century"

Hosted by the American Water Works Association
Hyatt Regency Monterey
Monterey, California

For further information contact Susan Miller at AWWA at (303) 347-6181; e-mail: smille@awwa.org.

—This premier four-day conference will include software demonstrations and speakers geared toward water conservation issues. If you have not yet registered, there's still time to do so onsite. Call the above phone number for conference prices for the onsite registration.

February 2-3

"CALFED-Boom or Bust?"

37th Annual Meeting of the California Irrigation Institute, Inc.

Holiday Inn, Centre Plaza
Fresno, California

For further information call Jeanne Duncan at (916) 366-9376.

—Mark your calendar and register early for the 37th annual meeting of the California Irrigation Institute. Preregistration (by January 22) is \$120; after January 22 it is \$150; full-time students pay only \$25. Exhibitors pay \$250 (includes one registrant).

CONSERVATION-RELATED EVENTS

February 28-March 3

Joint Management Specialty Conference

Sponsored by the American Water Works Association and Water Environment Federation

Adams Mark Hotel

San Antonio, Texas

For further information contact Rick Harmon at AWWA, or contact the Water Environment Federation at (800) 666-0206 or (703) 684-2452; FAX (703) 684-2492;

e-mail: confinfo@wef.org.

—This conference represents a unique opportunity for individuals who are involved with water treatment to explore strategies and options for competitive management into the new century.

February 28-March 3

Membrane Technology Conference and Exhibition

Sponsored by the American Water Works Association

Hyatt Regency Long Beach

Long Beach, California

For further information contact Claire Haas at AWWA at (303) 347-6194; or register online at <http://www.awwa.org/99membrane/reghsfrm.htm>.

—AWWA holds this conference every two years. It offers water professionals an opportunity to learn the newest applications and developments in providing high-quality, cost-effective drinking water.

March 3-4

Interstate Council on Water Policy 1999

Washington Roundtable

Hotel Washington

Washington, D.C.

For further information contact ICWP, 1299 Pennsylvania Avenue, NW, Washington, D.C. 20004; (202) 218-4196; FAX (202) 842-0621.

March 5-6

California Groundwater Association Annual Seminar

Radisson Hotel

Sacramento, California

For more information contact California Groundwater Association at (707) 578-4408.

—Mark your calendar to attend CGA's two-day annual

seminar designed to meet the needs of contractors, technical consultants and regulatory officials. Get new information and skills to help you do your job whether you're a business owner, top manager or employee.

Water Education Foundation 1999 Tours

March 3-5—Lower Colorado River

April 22-23—Groundwater

May 19-21—Central Valley

June 16-18—California Bay-Delta

October 6-8—Northern California Fisheries and Facilities

WEF's tours offer participants a firsthand look at the water facilities, rivers and regions critical in the debate about the future of water resources in the West. Issues of water supply, water quality, environmental restoration, flood management, water marketing, and water conservation are addressed by a wide range of speakers representing different viewpoints. To get a free tour brochure or to register for a tour, visit WEF's "Events" page at <http://www.water-ed.org/events.htm>, or e-mail Diana Farmer at dfarmer@water-ed.org.

March 10

CUWCC Plenary Session

The California Urban Water Conservation Council

East Bay Municipal Utility District

Oakland, California

For further information, call (916) 552-5885; FAX (916) 552-2931; e-mail cuwcc@cyspaceinfo.com.

April 7-8

Water Conservation Information Meeting

—This fifth meeting of the Water Conservation Information Committee will be held in Bakersfield, California. The meeting will be sponsored by the Kern County Water Agency, DWR and the USBR. The meeting will center around a visit (on April 7) to the most innovative groundwater banking effort in California, the Kern Water Bank, and associated environmental enhancement. For more information call Mary Lou Cotton of KCWA at (805) 634-1405 or Arturo Carvajal of DWR at (916) 327-1622.

WATER CONSERVATION NEWS

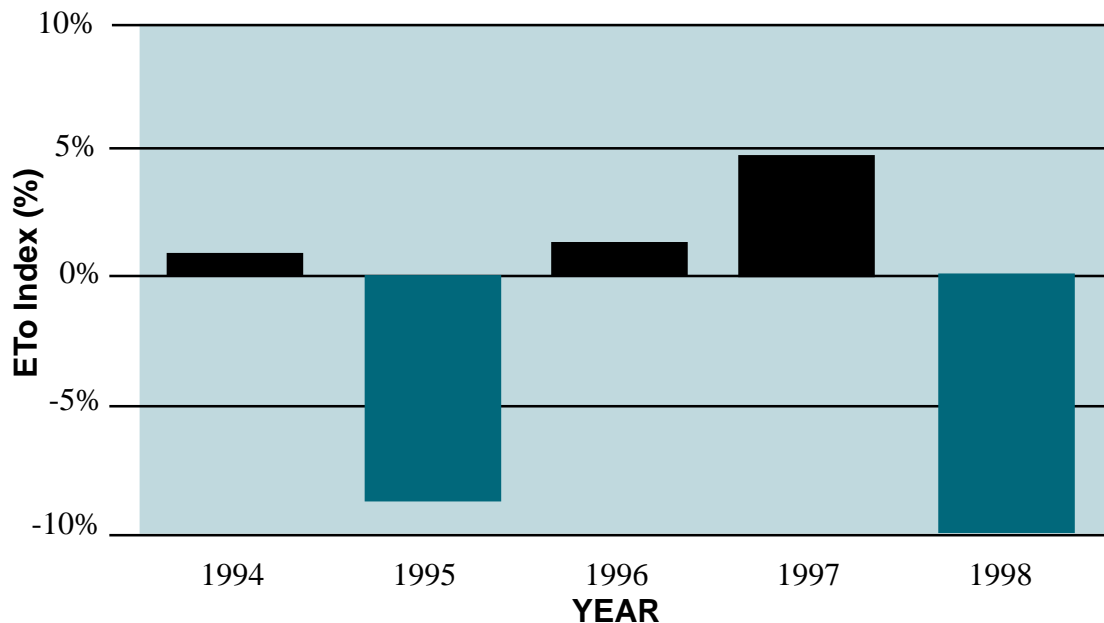
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 Sacramento, CA 94236-0001



Address Correction Requested

CIMIS Network News

California Irrigation Management Information System (CIMIS) ETo Index
 Central San Joaquin Valley
 Spring and Summer 1994-1998



The chart above shows the spring and summer CIMIS ETo index for the Central San Joaquin Valley. ETo index is a measure of the difference between current and historical crop water use. A negative index means current crop water use is lower than normal. The CIMIS ETo index is based on long-term reference evapotranspiration (ET_o) data from CIMIS weather stations. ET_o is an estimate of water use of grass that is an indication of water use by all kinds of vegetation. Notice the effect of the unusual weather in 1998.

Visit the CIMIS web site at <http://wwwdpla.water.ca.gov/cgi-bin/cimis/main.pl>.

